S15. Dipole-Dipole IMFs
S16. London Dispersion IMFs
S17. Ion-Dipole IMFs

1. What are you curious about?

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2. Pre Activity Notes

a) Definitions

<u>Polar Covalent</u>	<u>Non-Polar Covalent</u>

<u>Are *Ionic Compounds* polar? Explain using a picture?</u>

c) Complete table below

Covalent Formula	Lewis Structure (rough)	Lewis Structure (shape & charges)	Polar or NonPolar
N_2			
CO_2			
H_2O			
CCl_4			
CH_2O			
CH_3OH			
NH_3			
BH_3			
SO_2			

3. Activity (NaCl and H$_2$O) - no slides *

Challenge: *What effect does the addition of solid NaCl have on the boiling point of pure H$_2$O? All gathered data must be quantitative, and you cannot not assume you know the boiling point of pure water.*

<u>Data</u>

<u>Answer & Hypothesis</u>
(What did you find out. Why do you think it is so?)

<u>Reveal</u>

4. Notes (S15-S17)

a) Definitions and Examples *

<table>
<tr><td>Intermolecular Forces (IMFs)</td></tr>
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Types of IMFs

Dipole-Dipole	Ion-Dipole	London Dispersion
State Prediction:	*State Prediction:*	*State Prediction:*

Examples

Dipole-Dipole	Ion-Dipole	London Dispersion
State Prediction:	*State Prediction:*	*State Prediction:*

b) Practice

Compounds	Structure 1	Structure 2	IMF Diagram	State Prediction
N_2 and N_2				
H_2O and H_2O				
NH_3 and NH_3				
Cl^- and H_2O				
CO_2 and CO_2				
SO_2 and SO_2				
Cl_2 and CO				
CO and CO				

Compounds	Structure 1	Structure 2	IMF Diagram	State Prediction
Na^+ and O_2				
Na^+ and NH_3				
Br^- and HCN				
CH_2O and CH_2O				
CH_3Cl and CO				
CH_4 and H_2O				
CO and CO				
Na^+ and Cl^-				

5. Activity (   )

Observations

Reveal

6. Activity (   )

Observations

Reveal